

REMARKS

Claims 1, and 3-7 are pending in the present application, Claim 2 having been cancelled herein. The Office Action and cited references have been considered. Favorable reconsideration is respectfully requested.

Minor amendments have been made to claims 3, 4, and 7 to correct typographical errors and place them in conformance with standard U.S. practice. These amendments are not "narrowing" amendments and do not affect the scope of the claims.

Claims 1-5 were rejected under 35 U.S.C. § 102 (e) as being anticipated by Milton et al. (U.S. Patent No. 6,631,018). Claims 6 and 7 were rejected under 35 U.S.C. § 103 as being unpatentable over Milton et al. in view of Onaka et al. (U.S. Patent No. 3,513,323). These rejections are respectfully traversed for the following reasons.

Claim 1 recites a Grouped Optical Add Drop Multiplexer (GOADM) comprising a periodic filter for dropping or adding a group of optical wavelengths from/to a spectrum of optical wavelengths transmitted over an incoming optical line so that adjacent optical wavelengths in the spectrum are initially spaced from one another by a basic step "s". The GOADM comprises the periodic filter insertable in the incoming optical line as a primary filter to produce the group of optical wavelengths where adjacent wavelengths of the group are spaced from one another by a group step being equal to ks , wherein k is an integer >1 . This is not taught, disclosed, or rendered obvious by the prior art of record.

The only similarities between the Milton patent and the invention is in that they both comprise a two stage structure of a wavelength filter for an optical add drop multiplexer, and in that a secondary filter is adapted to filter out a specific wavelength from a plurality of wavelengths produced by a primary filter.

However, the nature of the primary filter of the invention significantly differs from that described in the Milton patent. Claim 1 of the present invention clearly states that a *periodic filter* is used for a grouped OADM. The meaning of the *periodic filter*, that allows obtaining enlarged spacing between optical channels, is described in the specification and will be additionally clarified below. In contrast, the Milton patent describes using a regular band-pass filter in the MUX/DEMUX system: "a single high performance optical interference filter that transmits the selected band to be dropped/added and passively reflects the remaining bands. The filters can be, for example, dichroic filters, Bragg grating filters based on circulators, and Bragg gratings based on fused biconic taper. A suitable filter is made by JDS Fitel of Ottawa, Canada. Such filters offer low through pass loss (<1dB), and reasonable (<2dB) add/drop loss." (Milton, paragraph bridging columns 4-5).

Milton does not mention any periodicity/steps between optical channels filtered out by the above-described band-pass filter. Milton describes neither a periodic filter, nor any combination of a periodic filter with a tunable filter. The system of filters described in the Milton patent is similar to the prior art system shown in Fig. 4 of the present patent application.

The *periodic filter* claimed in Applicant's claim 1 for the use in a Grouped OADM, is a specific type of filter which is known in the prior art. See, for example, a book of Stamatios V. Kartalopoulos "Introduction to DWDM Technology". Copies of pages 69-73 are enclosed, explaining the principle of obtaining a periodic transmittance profile of a Fabry-Perot resonator which is the base of a Fabry-Perot filter.

However, the use of periodic filters in OADMs, where a group of channels is to be extracted, has not been described in the prior art.

As pointed out in the present patent specification (page 6, first paragraph), "the very intrinsic feature of the periodic filter enables provision of groups where the member wavelengths are spaced from one another as far as the filter allows. Owing to the periodic character of the filter, each of the wavelengths in such a group is picked separately, and there is no problems of wavelengths lost on the borders of the group (to be compared with the conventional GOADM, where grouped wide band filters produce "dense" groups and the border wavelengths are lost due to the sloped filter response of these wide filters)." "In view of the above, the proposed new-type GOADM enables dropping/adding of any required number of optical channels at a particular point of a network, while using the bandwidth efficiently". (Page 6, second paragraph.)

It is exactly the band pass filter described in the Milton patent that suffers from the above-mentioned drawbacks of the wavelength loss on the borders

of the group and the inefficient bandwidth use. Applicant's claimed invention overcomes these problems by the use of the periodic filter, not taught by Milton.

For at least these reasons, Applicant respectfully submits that claim 1 is patentable over the prior art of record.

With respect to claim 4, Applicant respectfully submits that Milton does not mention any separation of the filtering system into ADD and DROP and MODULES. No such distinct modules or blocks are described by Milton with reference to his Fig. 3. In contrast, Applicant's claim 4 recites an ADD module and a DROP module, these are separate modules each comprising a periodic filter.. For at least these reasons, Applicant respectfully submits that claim 4 is not anticipated by Milton.

Claims 3 and 5 depend from and include the recitations of claim 1 and are believed to be patentable in and of themselves and as they depend from claim 1 which is patentable for the reasons discussed above.

With respect to the citation of Onaka with respect to claims 6 and 7, Applicant respectfully submits that Onaka does not mention tuning of periodic filters and thus does not remedy the deficiencies noted above with respect to Milton. Since neither Milton nor Onaka deals with periodic filters, neither of them separately or a combination thereof yields the present claimed invention.

In view of the above amendments and remarks, Applicant respectfully requests reconsideration and withdrawal of the outstanding rejections of record.

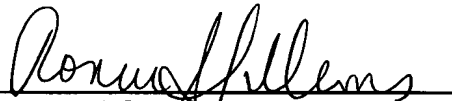
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Applicant submits that the application is in condition for allowance and early notice to this effect is most earnestly solicited.

If the Examiner has any questions he is invited to contact the undersigned at 202-628-5197.

Respectfully submitted,

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